

## PATENT

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## REMARKS

This is intended as a full and complete response to the Office Action dated February 26, 2002, having a shortened statutory period for response extended one month to expire on June 26, 2002. Claims 1-38 are pending in the application and stand rejected. Applicants have canceled claims 1-3 and 10 without prejudice and have amended the claims as shown above to more clearly recite aspects of the invention.

Claims 4, 5, 10, 11, 12, 14, 15, and 16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Habiby et al.* (U.S. Patent No. 4,021,333). The Examiner states that *Habiby et al.* teaches a process for purifying used oil including the use of a glycol. The Examiner also states that *Habiby et al.* teaches a step wherein a base is added to the used oil.

Applicants respectfully traverse. *Habiby et al.* discloses a method of distilling used oil to recover a distillate having a certain viscosity and then extracting impurities from the distillate. The extraction is a liquid to liquid extraction process employing an inert extractant. (See *Habiby et al.* at col. 2, lines 44-68). *Habiby et al.* also teaches "a preliminary step of adding a diluent to said oil and removing (e.g. by filtration or centrifugation) insoluble impurities from the solution of said oil in said diluent." (See *Habiby et al.* at col. 3, lines 36-40). *Habiby et al.* further teaches "heating the used oil with an aqueous solution of a strongly alkaline material prior to the addition of the diluent". (See *Habiby et al.* at col. 3, lines 58-60). However, *Habiby et al.* does not teach, show, or suggest mixing the used oil with a phase transfer catalyst in the presence of a base compound, as recited in claim 4, as amended, as well as the claims dependent therefrom. Accordingly, withdrawal of the rejection and allowance of the claims is respectfully requested.

Claims 4-38 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent Number 6,238,551. Claims 1-3 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of U.S. Patent Number 6,179,999. Claim 3 stands rejected under 35 U.S.C. § 101 as claiming the same invention as that of claim 3 of prior U.S. Patent No. 6,179,999. Claims 4-38

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stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 6,319,394.

Applicants have cancelled claims 1-3 without prejudice to obviate the rejections under 35 U.S.C. § 101. Accordingly, withdrawal of the rejections is respectfully requested. Furthermore, Applicants wish to postpone submission of a terminal disclaimer until patentable subject matter is identified. At that time, should an obviousness type double patenting rejection apply to the allowable subject matter, Applicants will then offer a terminal disclaimer.

The prior art made of record is noted. However, it is believed that the secondary references are no more pertinent to the Applicants' disclosure than the primary references cited in the office action. Therefore, it is believed that a detailed discussion of the secondary references is not deemed necessary for a full and complete response to this office action. Accordingly, allowance of the claims is respectfully requested.

In conclusion, the references cited by the Examiner, neither alone nor in combination, teach, show, or suggest the claimed invention. Having addressed all issues set out in the office action, applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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## APPENDIX

4. (Amended) A method for purifying used oil, comprising:  
mixing the used oil with a phase transfer catalyst in the presence of a base compound; and  
removing contaminants from the used oil.
5. (Amended) The method of claim [1] 4, wherein the phase transfer catalyst comprises quaternary ammonium salts, polyol ethers, glycols, or crown ethers.
6. (Amended) The method of claim [1] 4, wherein the phase transfer catalyst comprises ethylene glycol.
7. (Amended) The method of claim [1] 4, wherein removing contaminants from the used oil comprises distilling the motor oil at a temperature of about 200°C to about 275°C and a pressure of about 100 torr to about 200 torr.
8. (Amended) The method of claim [1] 4, wherein removing contaminants from the used oil comprises distilling the used oil at a temperature of about 275°C to about 300°C and a pressure of about 0.05 torr to about 0.2 torr.
9. (Amended) The method of claim [1] 4, wherein removing contaminants from the used oil comprises distilling the used oil at a temperature of about 200°C to about 300°C and a pressure of about 0.05 torr to about 200 torr.
11. (Amended) The method of claim [10] 4, wherein the base compound is an inorganic or organic base compound.
13. (Amended) The method of claim [1] 4, wherein a mixture of the used oil and phase transfer catalyst comprises about 1% to about 10% by weight of the phase transfer catalyst.

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14. (Amended) The method of claim [10] 4, wherein a mixture of the used oil and base compound comprises about 1 % to about 10 % by weight of the base compound in volume of solution.

15 (Amended) The method of claim [10] 4, wherein a mixture of the used oil and base compound comprises about 0.5 % to about 5 % by weight of the base compound in volume of solution.

16. (Amended) The method of claim [1] 4, wherein the used oil comprises motor oil.

17. (Amended) A method for removing contaminants from a petroleum distillate, comprising:

mixing the distillate with ethylene glycol in the presence of a base compound;  
and

removing the contaminants from the distillate using means for distillation.

23. (Amended) The method of claim 17, [further comprising mixing the distillate and a base compound,] wherein [the] a mixture of the distillate, ethylene glycol and base compound comprises about 1 % to about 10 % by weight of the base compound in volume of solution.

25. (Amended) A method for removing contaminants from motor oil, comprising:

mixing the motor oil with ethylene glycol in the presence of a base compound;  
and then

distilling the motor oil at a temperature of about 200°C to about 300°C and a pressure of about 0.05 torr to about 200 torr.

26. (Amended) The method of claim 25, wherein the base compound comprises an [further comprising adding an] inorganic [base] compound [to the motor oil prior to mixing the motor oil with ethylene glycol].

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27. (Amended) The method of claim [25] 26, wherein the inorganic base compound is selected from the group consisting of sodium hydroxide, potassium hydroxide, and combinations thereof.

29. (Amended) The method of claim [26] 25, wherein a mixture of the motor oil and base compound comprises about 1 % to about 10 % by weight of the base compound in volume of solution.

30. (Amended) The method of claim [26] 25, wherein a mixture of the [used] motor oil and base compound comprises about 0.5 % to about 5 % by weight of the base compound in volume of solution.

38. (Amended) The method of claim 31, wherein a mixture of the [used] motor oil and base compound comprises about 0.5 % to about 5 % by weight of the base compound in volume of solution.